

Dedicated Volunteers Test Water During Extreme Drought in Texas

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Lower Colorado River Authority

National Water Quality Monitoring Council

April 30, 2014





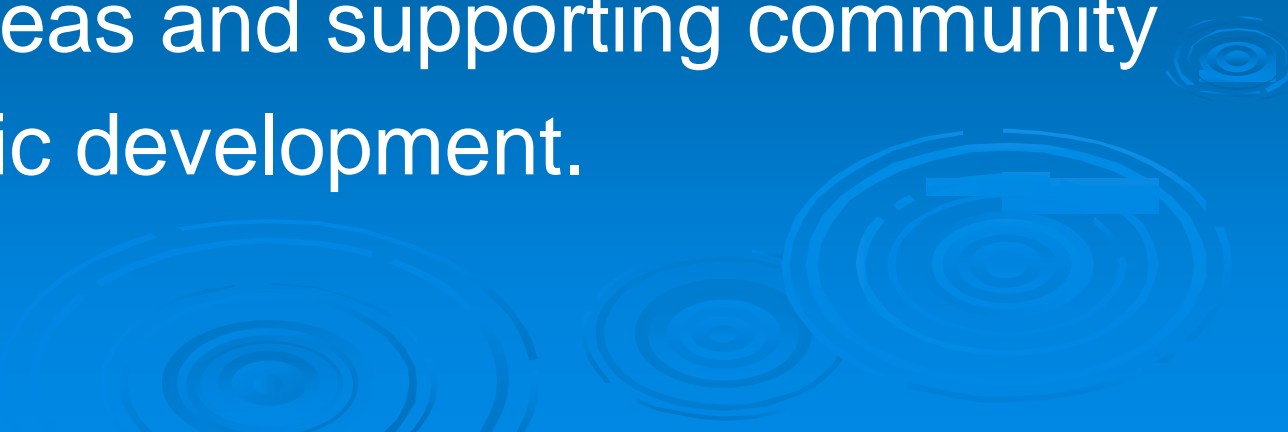
Colorado River

- 600 miles long
- 20,000 square mile watershed
- Drinking water for over a million people
- Water for industry and farming



Energy, water and community services for Central Texas

LCRA plays a variety of roles in Central Texas: delivering electricity, managing the water supply and environment of the lower Colorado River basin, developing water and wastewater utilities, providing public recreation areas and supporting community and economic development.



Colorado River Watch Network

- 1980s population explosion in Austin caused wastewater systems to fail

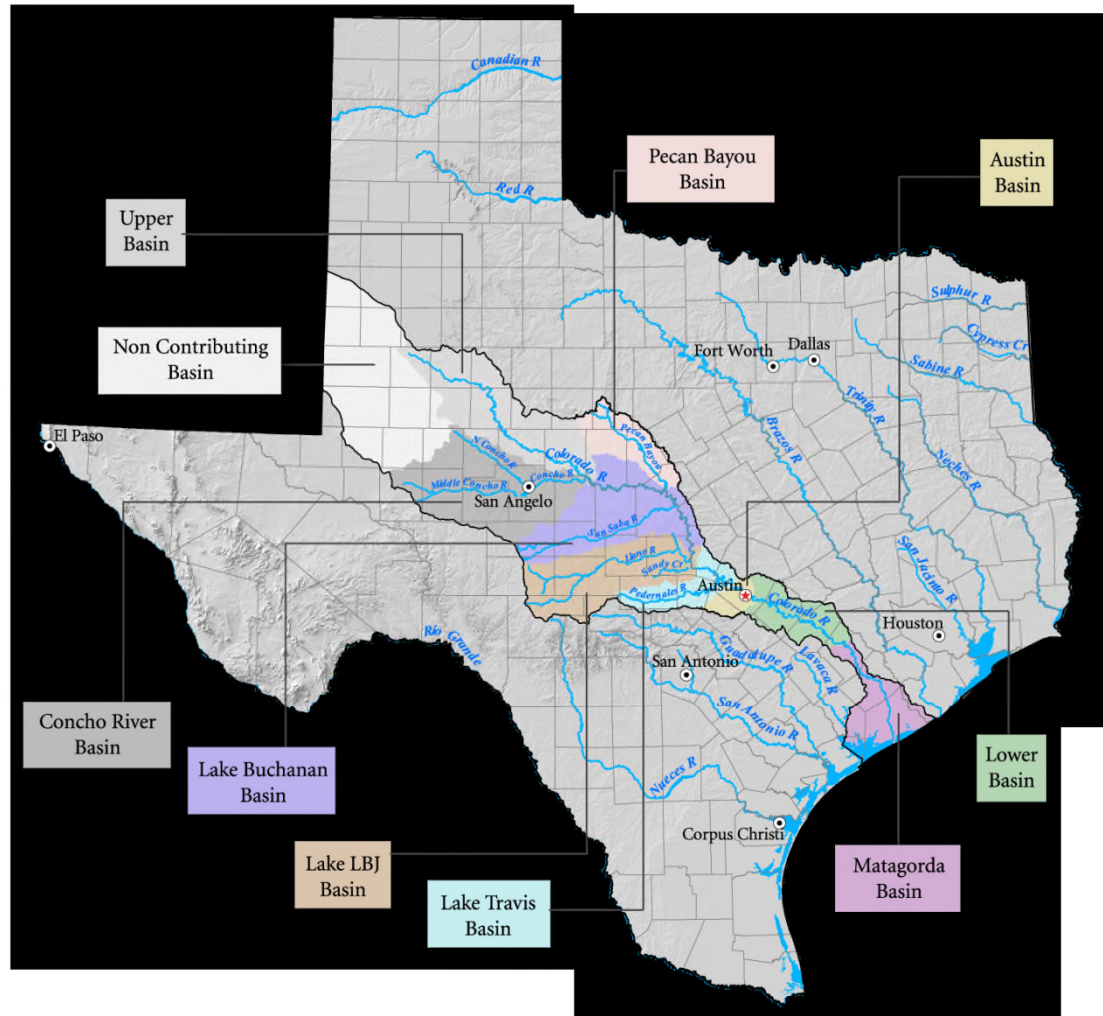


- 1988 CRWN was the first volunteer monitoring program in Texas initiated by a nonprofit citizen group

Colorado River Watch Network (CRWN)

- Volunteer water quality monitoring program became part of Lower Colorado River Authority (LCRA) in 1992
- Creates early warning system alerting LCRA to potential water quality threats
- Encourages and supports community-based stewardship
- Provides citizens, teachers and students with the resources necessary to monitor and protect the waterways of the lower Colorado River watershed

Colorado River Watershed



Colorado River Watch Network Water Quality Monitoring Sites

CRWN Water Quality Data

Retrieve water quality information collected by trained volunteer water quality monitors


Move your cursor over the map on the right to locate sites within the Colorado River basin where volunteer monitors collect data. Click on a red or gray loon to retrieve detailed water quality information for the site. Or you can skip the map and go directly to the [table listing stream segments and sites](#). The information on CRWN's water quality data site is principally designed for use by volunteer water quality monitors.

Default Map Areas

Lower Colorado River Basin

Toggle map data below

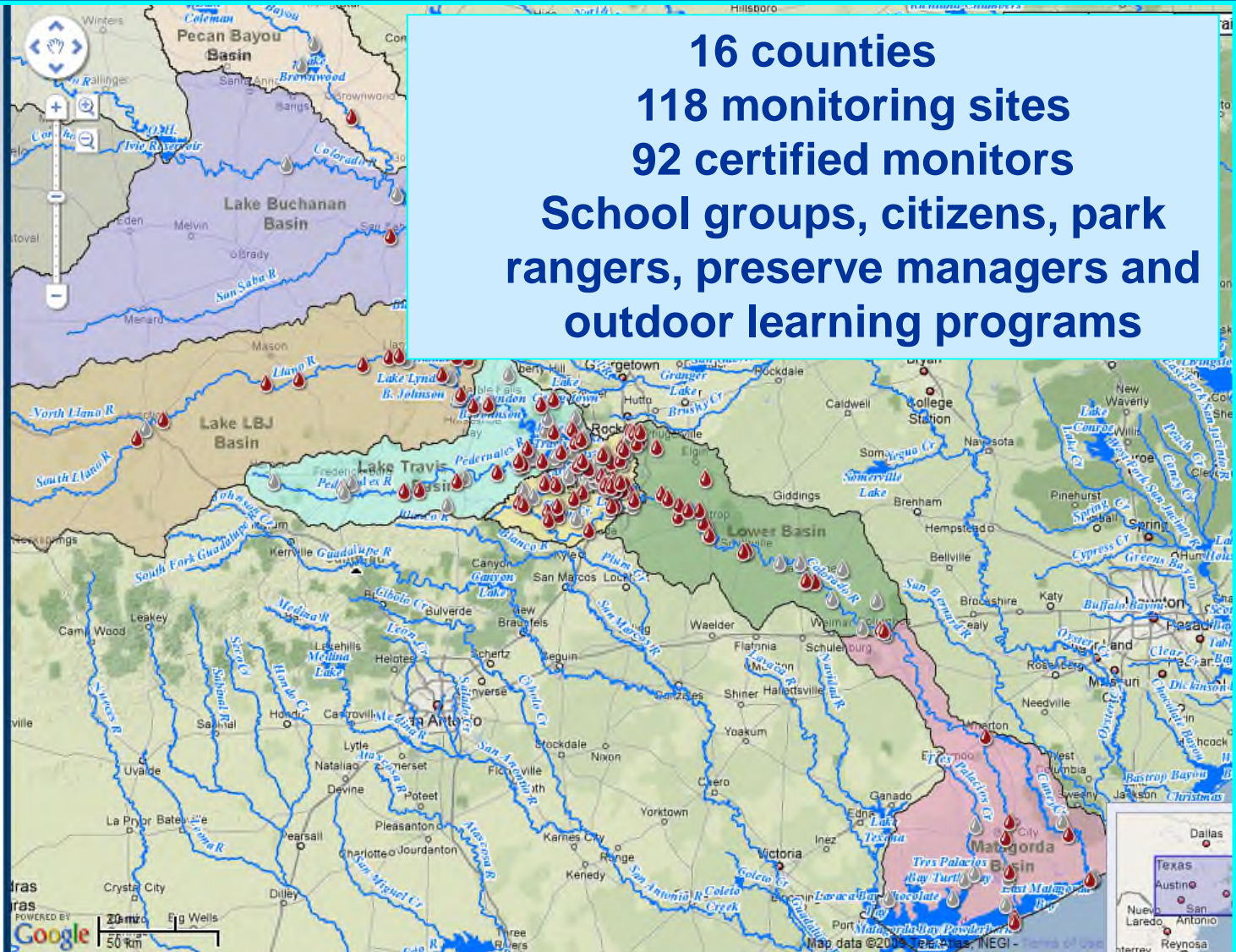
Monitoring Stations

- ☒  Currently Monitored
- ☒  Not Currently Monitored

Base Map Data

- ☒ Stream Overlay
- ☒ Watershed Overlay
- ☐ County Boundaries

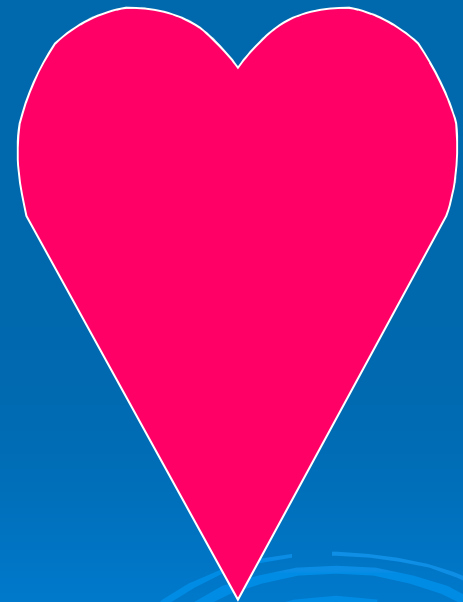
- ▶ Data Entry
- ▶ Stream Standards
- ▶ FAQs
- ▶ Map Help



Volunteers are the heart of the program

Volunteers commit to:

- Monitor once a month for two years
- Send their data to LCRA every month
- One quality control visit per year



Water quality is determined by the *physical, chemical and biological* characteristics of water.

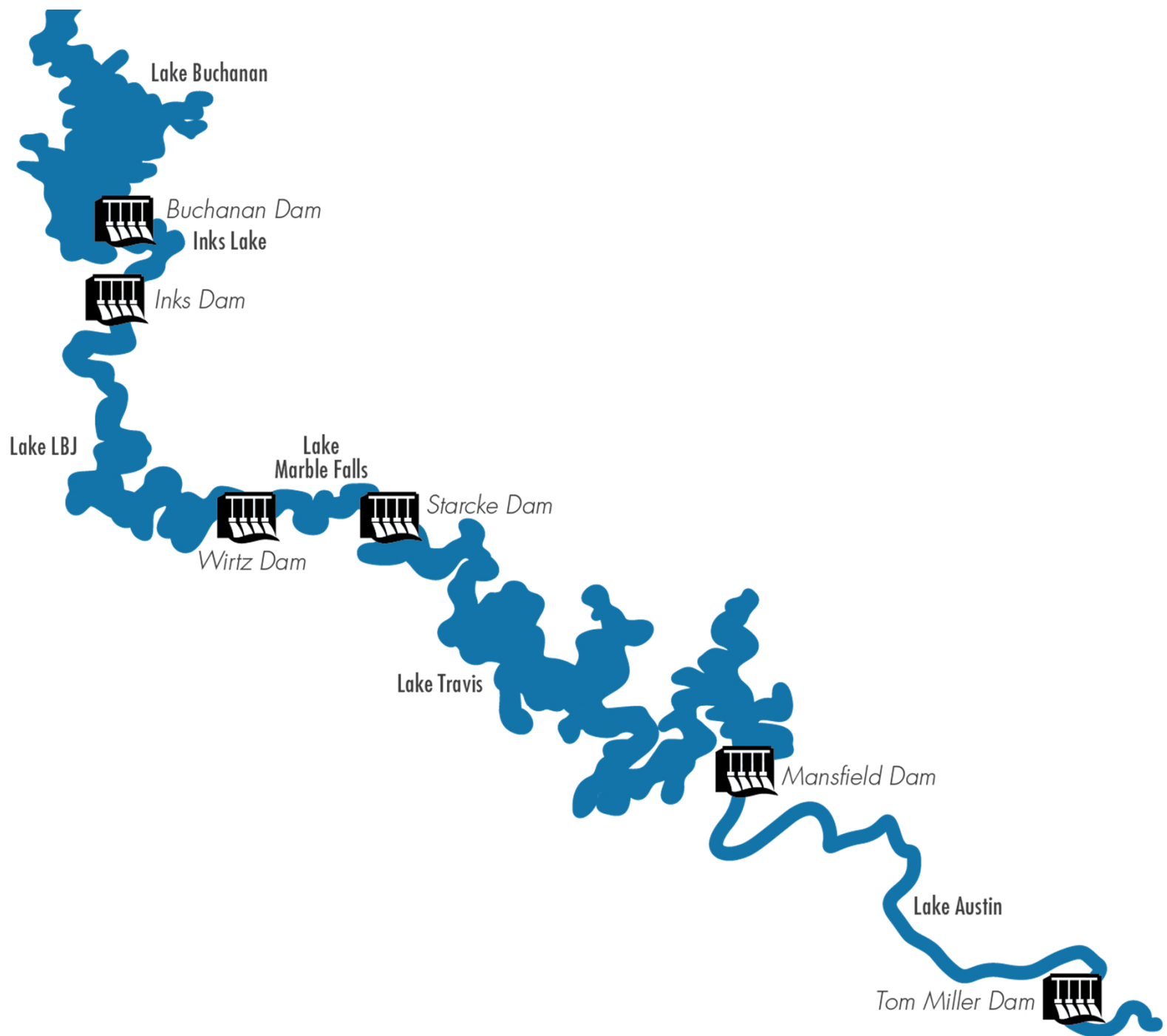


“Flash Flood Alley”

- Central Texas, known as “Flash Flood Alley,” is home to frequent sudden and heavy rains and flooding
- The region is also subject to droughts
- The worst drought on record in Texas is the drought of 1947-57, called the Drought of Record

Highland Lakes

- LCRA made it possible to manage floodwaters and store water for use during droughts by building the six dams that created the Highland Lakes
- The system of lakes and dams protects people and property from overpowering floodwaters and preserves a reliable water supply



Highland Lakes' tributaries



Brady Creek



Colorado River

Colorado River



Lake Buchanan



Lake Buchanan



Lake Buchanan



Lake Buchanan



Lake Buchanan



Pedernales River near Lake Travis



Pedernales River Wet



Pedernales at Hammett's Crossing 9/13/09 10:30 downstream

Pedernales River Dry



Lake Travis



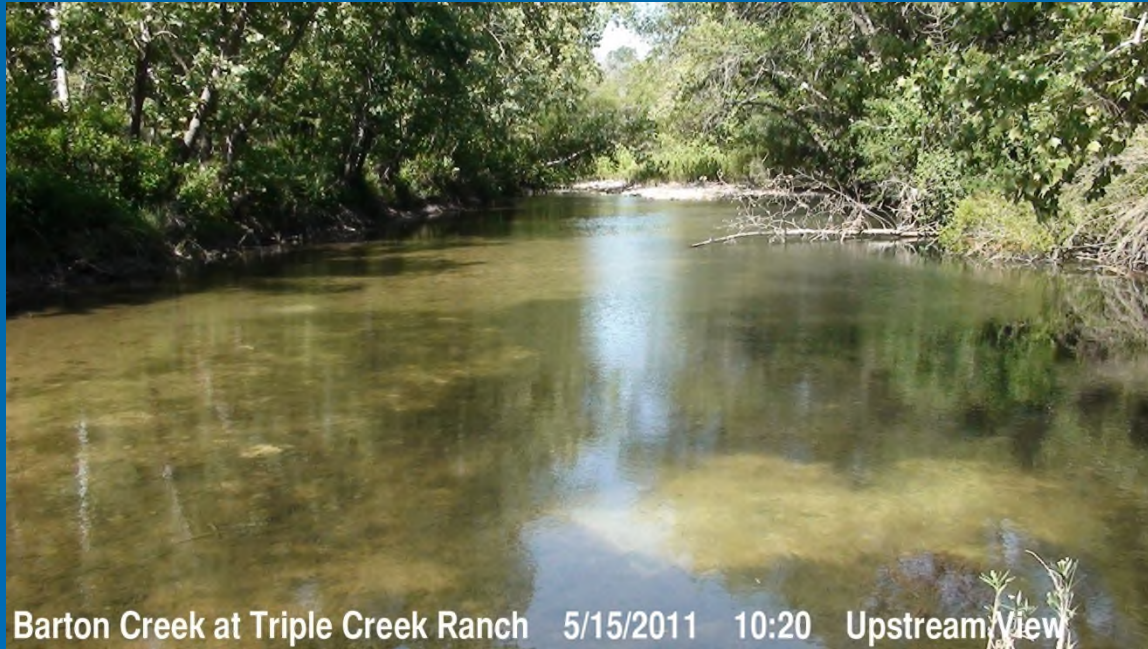
Lake Travis



Lake Travis



Barton Creek Wet

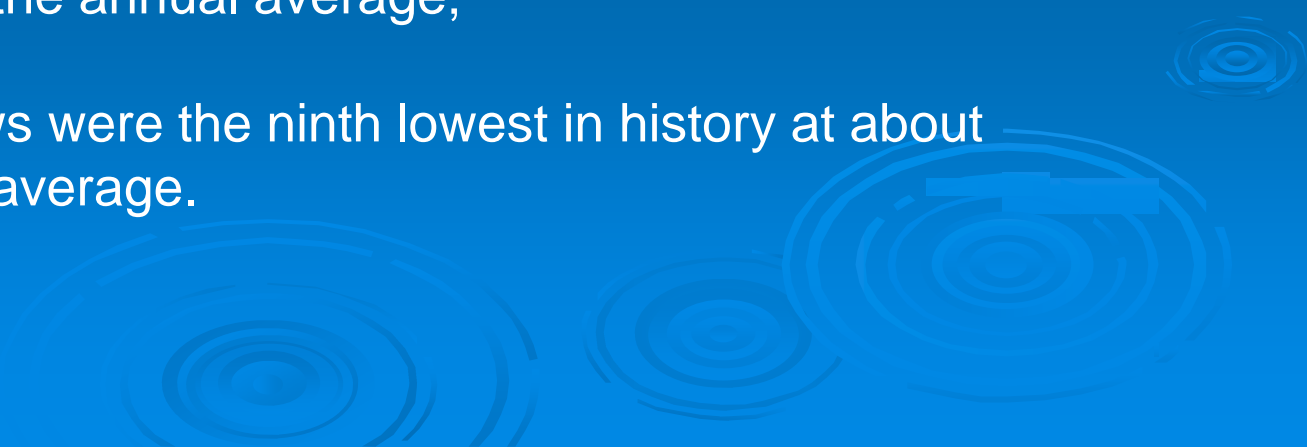


Barton Creek Dry



Barton Creek at Triple Creek Ranch 6/26/2011 10:15 downstream

State of the Drought

- 2011 inflows were the lowest in history and only about 10 percent of the annual average;
 - 2013 inflows were the second lowest in history at about 18 percent of the annual average;
 - 2008 inflows were the third lowest in history at about 23 percent of the annual average;
 - 2012 inflows were the sixth lowest in history at about 32 percent of the annual average;
 - 2009 inflows were the ninth lowest in history at about 41 percent of average.
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The drought's impact on the lakes and rivers



Droughts are tough on aquatic life



Milfoil in Lake LBJ



A messy nuisance

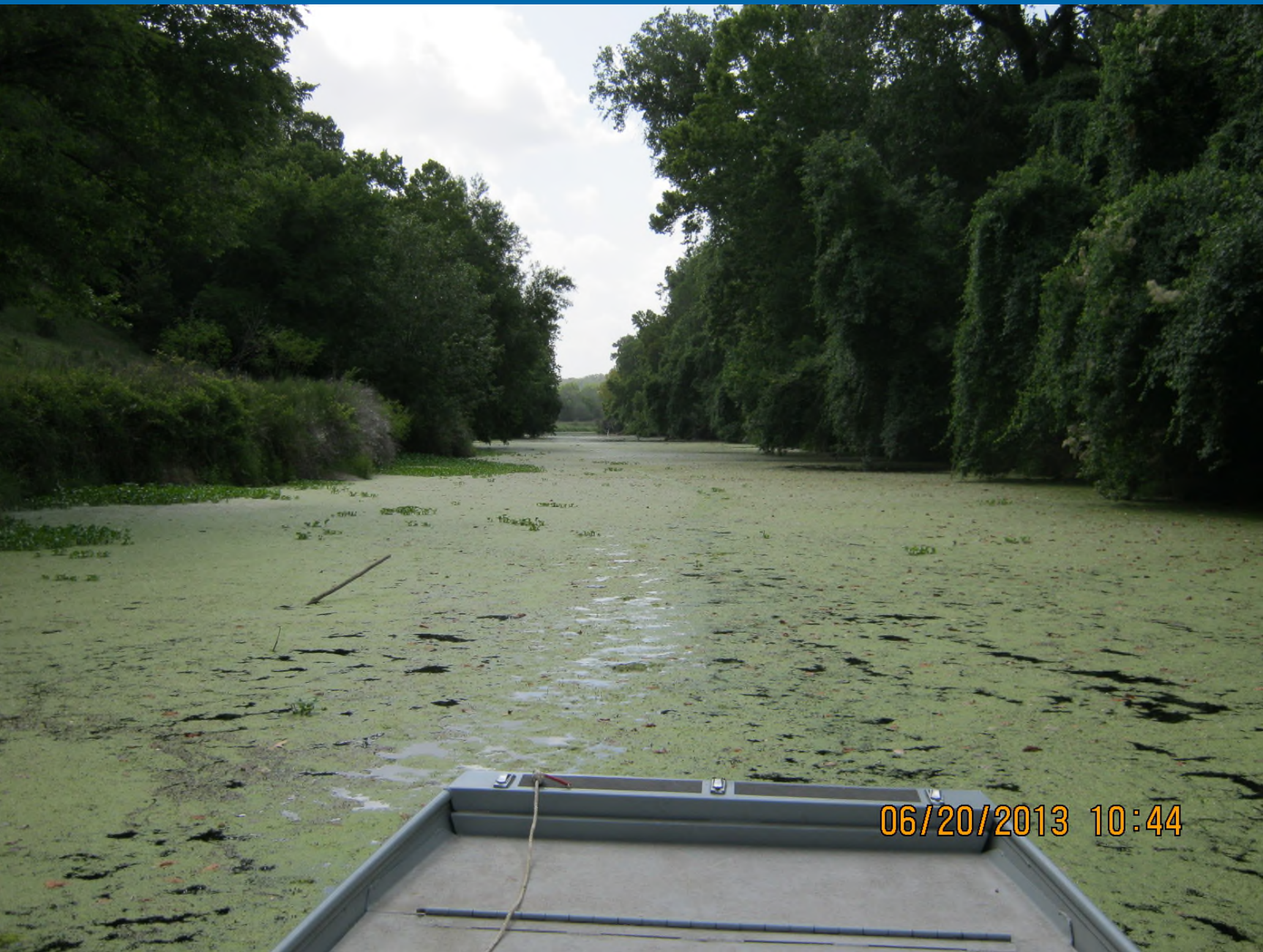


Effects downstream of Austin

- Higher levels of nitrate
- Explosion of algae and aquatic plants
- Wide fluctuations in dissolved oxygen readings (extreme low readings detected)



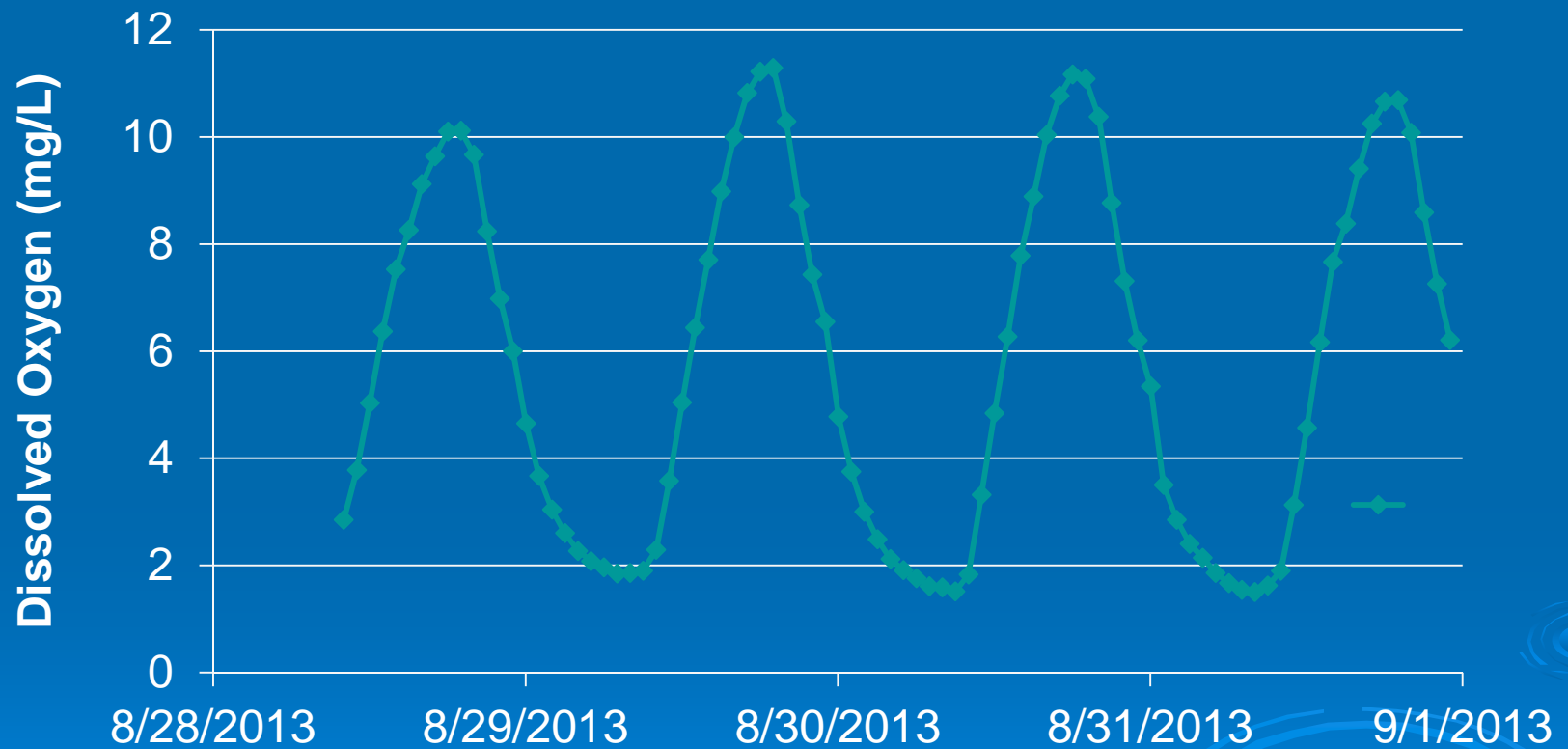
Downstream of Austin



06/20/2013 10:44

Dissolved Oxygen

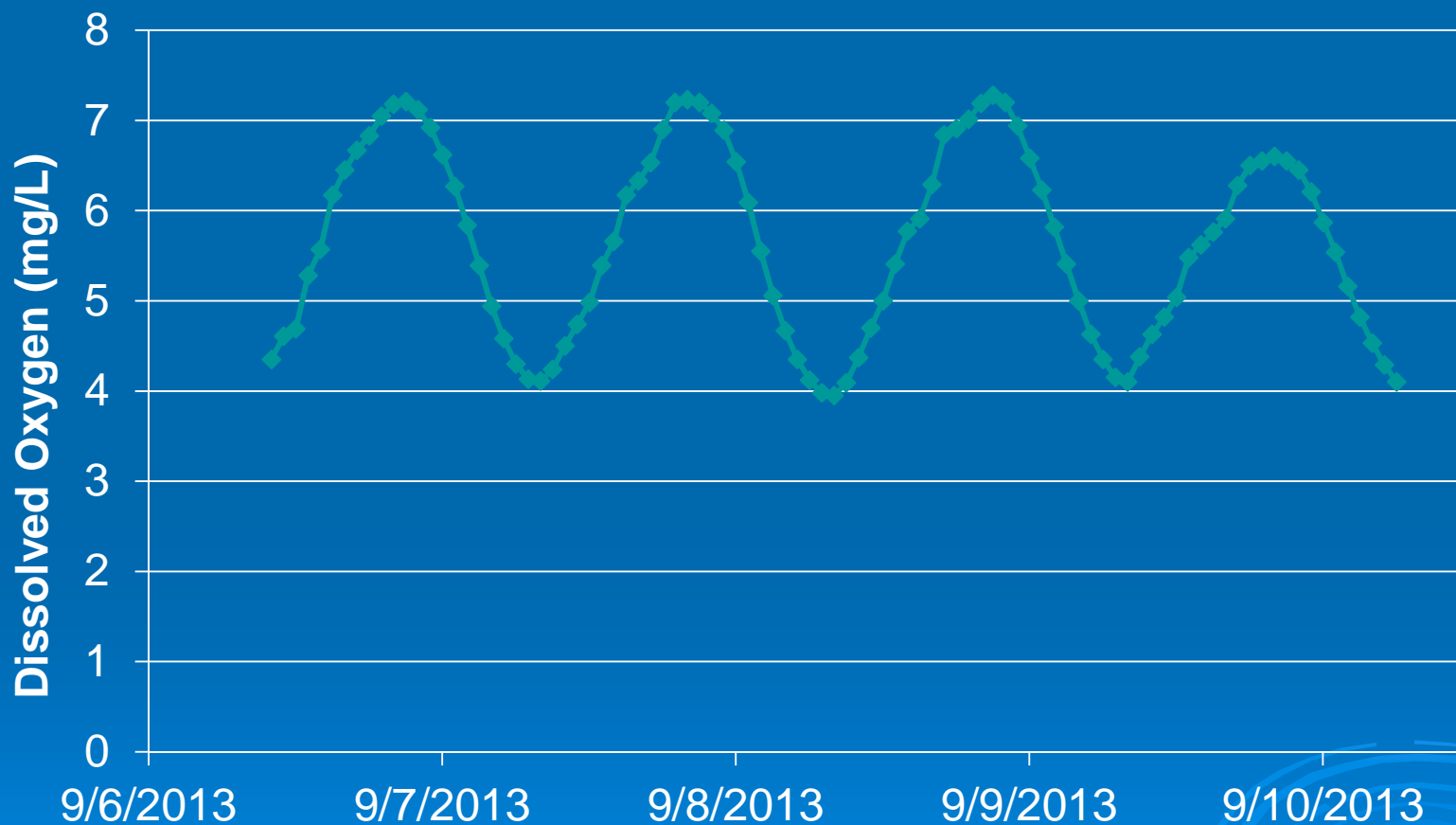
Colorado River below Austin





Dissolved Oxygen

Colorado River near Webberville, Texas



Colorado River near La Grange



CRWN website

[http://www.lcra.org/water/quality/
colorado-river-watch-network/
Pages/default.aspx](http://www.lcra.org/water/quality/colorado-river-watch-network/Pages/default.aspx)



Questions?



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